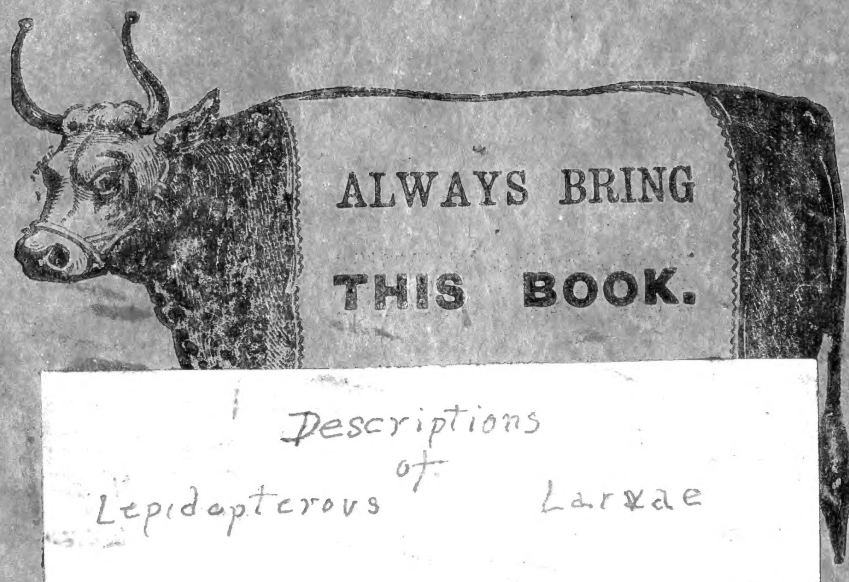


ALL BILLS SETTLED MONTHLY.



Descriptions
of
Lepidopterous Larvae

(continued)

BLUE BOOK

197 - 212.

PROVISIONS,

CONSTANTLY ON HAND

Beef, Pork, Mutton, Lamb, Poultry,
TRIPE, SAUSAGES, HAM,
LARD, PIGS' FEET, LIVER, &c.

Also, Fresh Fruit and Vegetables

Of all kinds in their season, at lowest cash prices.

Goods delivered promptly, free of expense.

moth, July 25. hd higher than wide, narrow
to vertex, flattened in front & depressed
at anterior of ophi above like *Danaus*.
Smooth, very shiny, light orange, almost
pure yellow, eyes black. W 2.3 mm. body
has a dorsal orange band with a row
minute tubercles, anal feet elevated.
Body yellow green, a s-d & stig yellow
band 2-11, edged on both sides with
black, interrupted before stig. A dorsal
& lateral black line. T 13 bluish black
line present but broken into spots.
Traces of s-r & ventral lines in spots.
anal plate yellow tipped brown; no c-shield
(dead)

* the 2 large eggs in slightly ant. of gummy
sacks (which depressed front & laterally)
and make their heads over the inner lid
all the hair covering the eggs. Copied
(BB 199 cont) ✓

♂ pupa cylindrical, the abd seg taper
the eyes wing cases & antennae cases
especially prominent. A little depressed
behind the ap. Semi-transparent shiny
yellowish, the black covered with long
thin silken white hairs. Antennae
feet, terminating in small brown hooks
well fastened in the silken cocoon.
L 12 mm W 5 mm ✓ (hd from cocoon 2.8)
gummy lat. Pinus, Aug 27 gummy Aug 29 off
structure of *Leucostigma* but not white
the color of the cocoon which is depressed above
dorsal on the ventral side is light brown
a small black spot on end abd. seg.
rudimentary wings dark ✓ lustrous.

Aug 30
Eyes black. Egg nearly spherical, the top
a little flattened. A large central
brownish spot with a paler dot at
apex of egg, surrounded by a concentric
concolorous ring. diam 1.5 mm. covered
with the brown hairs of the moth which
seem to be gummed on as are the eggs
to each other & the cocoon contrasts with
both covered eggs of *Leucostigma* and
the naked ones of *nova*.

Copied ^{vid. in calc (3.3 ratio, 7)} 1, 1.6, 2.3, 3.3
common larva
198 book

Eggs laid by tied mated ♀ *Platygramma*
promethia on sassafras July 6, 1890
Elliptical flattened above & below
or a little depressed. Shiny pale
creamy white, not punctured and
not smeared with any brown fluid
as is *Cecropia*. L. 1.9 mm W. 1.5 H. 1.3
Hatched July 19 hd black, labia &
palpi white & a longitudinal line
passing just above the eyes. W 1 mm
Body yellow, a ~~double~~ transverse
black band around & part of
each seg. heavier at extremities. Three
rows of tubercles tipped by spines, on j 12
one dorsal & 2 rows, yellow in center of
body, black at ends, all spine black 24
Molt Aug 26 As before. Hd 1.7 mm. The
tubercles are black on 2, 3 & 12 incl
drag these on anal plate, the rest
yellow but the sharp fine radiate
spines are brownish or pale. The

Worms & ticks in curled leaves fastened to
twigs & in bunches of seeds & spun along
the leaf stalks.

ground color fades to white as the style
advances. Inst B 31 Hd pale yellow
tinged with dusky yellow, Ant 2 mouth
parts white, 2 longitudinal black bands
on maxilla less interrupted one above mouth
the other above a plate, consisting of 2 spots.
Body white, tubercles in 3 rows black
4th row above base of legs on 2-4 with
radiate spine at tip black as also the
2 anal plate last row 1 on 3 4 and
the dorsal on 12 larger yellow with
black ring around the base. Legs
all yellow, a few black dorsal spots
on extremities. W. 2.3 (2.5-2.7)
Anal feet with black angulated line
on 4-5 4-5 yellow with traces of the
brown dorsal line & black spots. Labi
white indented above with black anterior
white eyes black. W 3.3 mm Body white
white, hants as before, the black ones
small. The dorsal on 3-4 large, brown
oval with a black ring at base. The
dorsal on 12 yellow with black line
Feet (small) 12 yellow, the abd. feet
with a black spot at anal feet with
a black broken at the lower anterior
corner. A small black spot on a pale
blue ring around the tubercles with traces
on crest of line through on 2. Comp. Anal 13

Hds by calc (2.8 ratio 7)

.47 .67 .96 1.37 1.96 2.8 4 (3 only)

Will have 1.0 1.5 2.1 2.8 3.5

copied
3/9/91

199 = *Argyria definita*

Two heads of eggs on 2 as before July

6. 93 Hd, pale yellowish, jaws black

W. 1 mm. Warts as in mature was

in BB196, small, concolorous, 2 large

ones on joint 2 bear thin pencils of

plummed black hairs, and a

similar pencil mixed with brown

hairs on joint 12. Body pale whitish

a yellowish band on joint segs.

and a strong band whole length

widen on 5, 6 & 7. Three dorsal deep

yellow tufts of joints 5, 6 & 7. Warts

brown thin, whitish hairs 2. 10 mm

Retractile wart on 10 etc whitish warts

a blackish shade around them

Molt July 4 Hd pale yellow, eyes black,

jaws brown, a small brown al. ocell

above labium: W. 1.5 mm (body as

before) covered with black hairs

on dorsal band and laterally, tufts

on joints 5, 6, 7, 8 dark yellow hair

Hds by calc (2.8 ratio 75)

CPD

.52 .71 .956 1.27 1.58 2.1 2.8 3.7 (only)

Have — .7 1.0 — 1.5 2.1 2.8 3.5

long, whitish. Cervical spots pale yellow

Retractile warts whitish L. 12 mm

Molt July 5 12 As before W. 2.7 mm

Between the yellow dorsal tufts are

a series of velvety black spots, concealed

unless the insect is disturbed. The

dorsum is gray, broadly so anteriorly

but ^{partly} replaced by a ^{yellow} band on joints 5

9-13. The lateral region is gray then

warts whitish and partly surrounded

by yellow, and a narrow ^{transverse} band

[199] July 13 Hd pale whitish, eyes black

anterior brown W. 7 mm Body has warts

small except 2 large ones on joint 2

bearing 2 or 3 short plummed black hairs, ^{also dorsal}

all the rest bear a few long white ones

body pale whitish, retractile warts whitish

Traces on two anterior dorsal tufts on 5, 6

Molt July 19, Hd brown. Molt 6 Hd 2.8

2.5 Hd pale red etc, along labium &

antennae white. Body pale yellow

a pale, almost colorless dorsal band

more or less covered with green.

than 4, less than 4.5) Imago
Coon July 25 Feb 16, 91

as before, eyes black on black patch
yellowish beneath. Mouth brown, joint
black w. 4 mm. Body as before next

① ^{now color} pale yellow ③ ^{now color} ~~pale~~ black.
strip above feet larger & few long hair.
Strip above base of anal feet black,
yellow above it. Abdomen feet black.

④ now wants w. s-r sp on 2-6, small
on 5 & 6. A number of short club shaped
white hair on dorsum.

July 16 Hd dark green, finely gran-
ulated & creased, eyes black on dark

brown ground, joint brown. Labrum
& mouth parts pale; bases of palpi ^(about 6, less 6.5) black.

yellow. Body as before, wants ① yellow
② bases brown, rest whitish, ^{or all rose color} bases

long blackish hairs. Anal plate dark
brown, granulated, the lower border

with yellow, thoracic feet dark brown
outwardly, clasper of abd blackish.

2 feet have black hairs. On dorsum
a number of white hairs from ① to ③
3 small orange with darker borders

201

Little larvae on butter-milk. Whole as
July 7. Hd pale, estacens, mouth brown

eyes black, w. 4 mm. Body
translucent greenish, front pair
on abd. feet partly aborted. L. 5 mm.
Some minute wants on body.

The others same but paler. Hd .6 mm.
On July 12 one hd .9 as before food
showing minute piliferous wants. Body

tapered, 2 good pair abd feet part aborted.
Other Hd 1.1 (or 1.2) very pale greenish, Hd
shiny body semitrans. Same as others ^{but little paler}

On July 17 Hd 1.1, all pale greenish yellow
reddish on dorsum of 2-4, interrupted

yellow s-d line, and abd. feet small
than others. Other Hd pale green, eyes

black, mouth whitish. W. 1.5 mm.
Body pale green, little reddish on

dorsum 2-4 with s-d yellow line
broken into 2 apst per seg. Skin

folded in body sutures. Feet

nearly equally developed. L. 10 mm
 One molt July 24 had 1.5 As the others
 the reddish color all disappears.

Other molt July 26 Hd pale green eyes black
 mouth & feet white. W 2.1 mm. Body
 folded in sigmoid curve like a cat.
 anal feet horizontal (not abraded). A red
 yellow stripe & 2 transverse plates broken
 into two elongated spots per seg. Pale
 greenish with darker green irregular
 spots, darker on head & legs.

Molt July 31. Same. W 2.7 (2.5+, 3-)
 Spineless red. Turned red and
 made corn on back of leaf of little
 bits of leaf and silk Aug 5, 1898

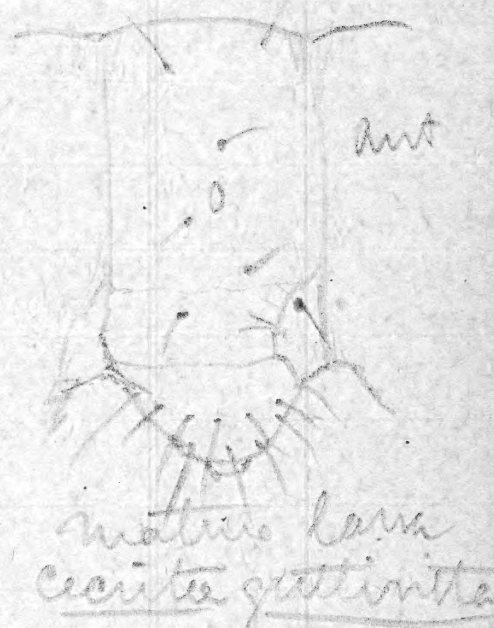
(no pupa)

202

Egg, laid by ♀ R. is obella July 10, 1898
 Subconoidal, almost $\frac{2}{3}$ sphere, base on
 flat, shiny pearly white. Diam. 9 mm

A 203 On choice cherry; Jefferson Hyatt
 N.H. June 16 1898. Hd 1.1 $\frac{1}{2}$ brown brown
 Body dark brown & greenish on sides
 on 1st brown patches face then feet on
 7 and 10 lat; 8-d line of elements
 broken on 7, & oblique on 11, trans-
 verse on 12. Cdh 1 anal ps
 black. four with 2 very short
 unbranched horns
 main strong
 polyd.
 line
 A whole June 9 Hd 1.6+
 Horns blunt points As before at feet

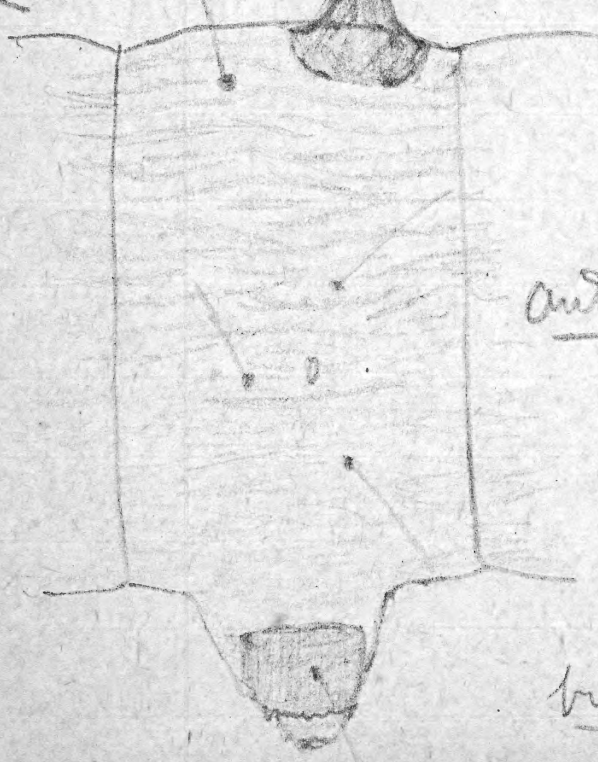
203



mature larva
Cecropia gettinha

Found on beech
 Keene Valley, N.Y.
 Drayton July 10
 1898 while
 preparing to
 molt.

This larva is
bimaculata or *gettinha*



ant.

13
 dy
 above bordered with green.

Near Valley 2. y. m. white to brick from 27 1894 1.5+
 Band on hd brown, its under part yellow, same as
 described for stage II. D. line just indicated
 traces hardly to 10 square cut. sd distinct yellow
 outlined with w. 12 and anal pl. a few dark
 dots on thorax feet pale anal yellow with a
 brown line on outer margin

Copied
 12/3/90

203 Bee 40 guttata
 between farm house July 13 '90. white outwards on anal plate
 reddish brown wide, ant. conical. Pale greenish, a
 line from vertex on the
 sides, dark crimson
 broad. Labrum & palpi
 greenish brown, W. 2.1 mm.
 at 78 when 1st inst.
 anal pair elevated
 a yellow line contains
 apparently two
 now white dorsal
 on 5th appearing
 8th supplemented on
 each side
 yellow line, which
 anal line on 8 and anal
 only 2 small yellow
 sd line fading
 13. edged inwardly
 on 12 & 13,

Cells .6 .9 1.4 2.2 3.3 8-60
 found - - 1.5+ 2.1 3.3

ant.

interrupted obliquely on 11, and
 white outwards on anal plate
 faint trace of yellow stigmatal
 line many small black dots
 laterally on dorsum of ant.
 segs. Feet yellowish, anal pair
 white, with a narrow longitudinal
 black line, tipped with yellow
 (Another same age on chestnut July 15
 Same, but supplementary dorsal line
 is more extensive. It leaves dorsal
 line on 5, reaches it on 8,
 immediately leaves it again and
 joins sub-dorsal line on 10, just past
 the interruption. D. line extends
 whole length except on joints 13-
 Molt July 16 to 3.3 mm vertical line
 germinate, somewhat pubescent
 on white ground. Green, labrum
 whitish, mouth purple red, eyes black
 cervical spot narrowly yellow in first
 smooth. Body as before, dorsal

vertical line on dorsum 13-14

Another on Birch July 27, Hd 3.3
 4 and on head purplish.

larvae. Cases prominent. Acuminate two parallel
 spines barbed at the end with two little spines
 pointing the lower one inward the other outward
 (and the spine twisted a little near the end)
 A curved row of 6 subcircular elevations at post.
 edge of thorax. 2 19 mm W 5 mm color shiny
 iridescent red, darker on cases.
 white, and yellow. Small
 purple brown round
 (trig. line) most July 16.
 dorsal marked
 distinct than in
 Their case can
 be traced however
 than 3, less than 3.5 mm
 surfaces white shiny
 placed by sutures on
 dorsal line and below the
 joint 13, & the s.d. line
 white. Subventral
 purple, dorsal again
 into a general faint
 (same but post.
 pink spot in
 bands of head narrow
 white from broad
 pink edged white
 brown spot in 14 in
 sub-ventral space. External ground July 27
 Pupa cylindrical & several at a time. Red
 punctured. Cases curved and

body scale 4 .7 1.1 1.7 2.7
 we have 4 1 1.3; 1.7 2.7
 9/7/90 20 common larva
 C. concinna
 On apple July 13, 1890, Hd black shiny
 W. 4 mm Body shiny brownish olive
 with cervical spot & 4 rows of small
 elevated spots black, lower rows minute
 Thoracic feet black, anal feet elevated
 most July 14 Hd shiny black, a small
 black tubercle at apex of each lobe
 W. 1 mm (full) apex short hairs. Body
 brownish olive, with rows of conical
 shiny black, piliferous tubercles those
 on 4 & 12 dorsal longest 5 mm ① vent.
 d. line, ② s.d. ③ st. ^{super} ④ sub. s. ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪ ⑫ ⑬ ⑭ ⑮ ⑯ ⑰ ⑱ ⑲ ⑳ ㉑ ㉒ ㉓ ㉔ ㉕ ㉖ ㉗ ㉘ ㉙ ㉚ ㉛ ㉜ ㉝ ㉞ ㉟ ㊱ ㊲ ㊳ ㊴ ㊵ ㊶ ㊷ ㊸ ㊹ ㊺ ㊻ ㊼ ㊽ ㊾ ㊿
 C spot & anal plates black Anal feet up
 most 3/20 Hd as before, a number
 black brown W. 1.3 mm. Body yellow
 brown, a s.d. & lateral line whitish
 edged with red brown, distinct only
 centrally. Tubercles ① on 4-6, long &
 large others larger than before, each
 with a hair. C. spot & anal plates
 black tubercles, thoracic feet black

52

1



1

13

1

1

...

3

1

1

1

Imago Jan 27, 1910. Cat. No. 5358

Scaphiophloeus abalienatus

Copied
2/5/91.

1st inst. 4 mm. (Jan 15) 1910
 2nd inst. 6 mm. (Jan 20) 1910
 3rd inst. 8 mm. (Jan 25) 1910
 4th inst. 10 mm. (Feb 1) 1910
 5th inst. 12 mm. (Feb 5) 1910
 6th inst. 14 mm. (Feb 10) 1910
 7th inst. 16 mm. (Feb 15) 1910
 8th inst. 18 mm. (Feb 20) 1910
 9th inst. 20 mm. (Feb 25) 1910
 10th inst. 22 mm. (Mar 1) 1910
 11th inst. 24 mm. (Mar 5) 1910
 12th inst. 26 mm. (Mar 10) 1910
 13th inst. 28 mm. (Mar 15) 1910
 14th inst. 30 mm. (Mar 20) 1910
 15th inst. 32 mm. (Mar 25) 1910
 16th inst. 34 mm. (Mar 30) 1910
 17th inst. 36 mm. (Apr 5) 1910
 18th inst. 38 mm. (Apr 10) 1910
 19th inst. 40 mm. (Apr 15) 1910
 20th inst. 42 mm. (Apr 20) 1910
 21st inst. 44 mm. (Apr 25) 1910
 22nd inst. 46 mm. (Apr 30) 1910
 23rd inst. 48 mm. (May 5) 1910
 24th inst. 50 mm. (May 10) 1910
 25th inst. 52 mm. (May 15) 1910
 26th inst. 54 mm. (May 20) 1910
 27th inst. 56 mm. (May 25) 1910
 28th inst. 58 mm. (May 30) 1910
 29th inst. 60 mm. (Jun 5) 1910
 30th inst. 62 mm. (Jun 10) 1910
 31st inst. 64 mm. (Jun 15) 1910
 32nd inst. 66 mm. (Jun 20) 1910
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 35th inst. 72 mm. (Jul 5) 1910
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 37th inst. 76 mm. (Jul 15) 1910
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 41st inst. 84 mm. (Aug 5) 1910
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 248th inst. 498 mm. (Jun 20) 1913
 249th inst. 500 mm. (Jun 25) 1913
 250th inst. 502 mm. (Jun 30) 1913
 251st inst. 504 mm. (Jul 5) 1913
 252nd inst. 506 mm. (Jul 10) 1913
 253rd inst. 508 mm. (Jul 15) 1913
 254th inst. 510 mm. (Jul 20) 1913
 255th inst. 512 mm. (Jul 25) 1913
 256th inst. 514 mm. (Jul 30) 1913
 257th inst. 516 mm. (Aug 5) 1913
 258th inst. 518 mm. (Aug 10) 1913
 259th inst. 520 mm. (Aug 15) 1913
 260th inst. 522 mm. (Aug 20) 1913
 261st inst. 524 mm. (Aug 25) 1913
 262nd inst. 526 mm. (Aug 30) 1913
 263rd inst. 528 mm. (Sep 5) 1913
 264th inst. 530 mm. (Sep 10) 1913
 265th inst. 532 mm. (Sep 15) 1913
 266th inst. 534 mm. (Sep 20) 1913
 267th inst. 536 mm. (Sep 25) 1913
 268th inst. 538 mm. (Sep 30) 1913
 269th inst. 540 mm. (Oct 5) 1913
 270th inst. 542 mm. (Oct 10) 1913
 271st inst. 544 mm. (Oct 15) 1913
 272nd inst. 546 mm. (Oct 20) 1913
 273rd inst. 548 mm. (Oct 25) 1913
 274th inst. 550 mm. (Oct 30) 1913
 275th inst. 552 mm. (Nov 5) 1913
 276th inst. 554 mm. (Nov 10) 1913
 277th inst. 556 mm. (Nov 15) 1913
 278th inst. 558 mm. (Nov 20) 1913
 279th inst. 560 mm. (Nov 25) 1913
 280th inst. 562 mm. (Nov 30) 1913
 281st inst. 564 mm. (Dec 5) 1913
 282nd inst. 566 mm. (Dec 10) 1913
 283rd inst. 568 mm. (Dec 15) 1913
 284th inst. 570 mm. (Dec 20) 1913
 285th inst. 572 mm. (Dec 25) 1913
 286th inst. 574 mm. (Dec 30) 1913
 287th inst. 576 mm. (Jan 5) 1914
 288th inst. 578 mm. (Jan 10) 1914
 289th inst. 580 mm. (Jan 15) 1914
 290th inst. 582 mm. (Jan 20) 1914
 291st inst. 584 mm. (Jan 25) 1914
 292nd inst. 586 mm. (Jan 30) 1914
 293rd inst. 588 mm. (Feb 5) 1914
 294th inst. 590 mm. (Feb 10) 1914
 295th inst. 592 mm. (Feb 15) 1914
 296th inst. 594 mm. (Feb 20) 1914
 297th inst. 596 mm. (Feb 25) 1914
 298th inst. 598 mm. (Feb 30) 1914
 299th inst. 600 mm. (Mar 5) 1914
 300th inst. 602 mm. (Mar 10) 1914
 301st inst. 604 mm. (Mar 15) 1914
 302nd inst. 606 mm. (Mar 20) 1914
 303rd inst. 608 mm. (Mar 25) 1914
 304th inst. 610 mm. (Mar 30) 1914
 305th inst. 612 mm. (Apr 5) 1914
 306th inst. 614 mm. (Apr 10) 1914
 307th inst. 616 mm. (Apr 15) 1914
 308th inst. 618 mm. (Apr 20) 1914
 309th inst. 620 mm. (Apr 25) 1914
 310th inst. 622 mm. (Apr 30) 1914
 311st inst. 624 mm. (May 5) 1914
 312th inst. 626 mm. (May 10) 1914
 313th inst. 628 mm. (May 15) 1914
 314th inst. 630 mm. (May 20) 1914
 315th inst. 632 mm. (May 25) 1914
 316th inst. 634 mm. (May 30) 1914
 317th inst. 636 mm. (Jun 5) 1914
 318th inst. 638 mm. (Jun 10) 1914
 319th inst. 640 mm. (Jun 15) 1914
 320th inst. 642 mm. (Jun 20) 1914
 321st inst. 644 mm. (Jun 25) 1914
 322nd inst. 646 mm. (Jun 30) 1914
 323rd inst. 648 mm. (Jul 5) 1914
 324th inst. 650 mm. (Jul 10) 1914
 325th inst. 652 mm. (Jul 15) 1914
 326th inst. 654 mm. (Jul 20) 1914
 327th inst. 656 mm. (Jul 25) 1914
 328th inst. 658 mm. (Jul 30) 1914
 329th inst. 660 mm. (Aug 5) 1914
 330th inst. 662 mm. (Aug 10) 1914
 331st inst. 664 mm. (Aug 15) 1914
 332nd inst. 666 mm. (Aug 20) 1914
 333rd inst. 668 mm. (Aug 25) 1914
 334th inst. 670 mm. (Aug 30) 1914
 335th inst. 672 mm. (Sep 5) 1914
 336th inst. 674 mm. (Sep 10) 1914
 337th inst. 676 mm. (Sep 15) 1914
 338th inst. 678 mm. (Sep 20) 1914
 339th inst. 680 mm. (Sep 25) 1914
 340th inst. 682 mm. (Sep 30) 1914
 341st inst. 684 mm. (Oct 5) 1914
 342nd inst. 686 mm. (Oct 10) 1914
 343rd inst. 688 mm. (Oct 15) 1914
 344th inst. 690 mm. (Oct 20) 1914
 345th inst. 692 mm. (Oct 25) 1914
 346th inst. 694 mm. (Oct 30) 1914
 347th inst. 696 mm. (Nov 5) 1914
 348th inst. 698 mm. (Nov 10) 1914
 349th inst. 700 mm. (Nov 15) 1914
 350th inst. 702 mm. (Nov 20) 1914
 351st inst. 704 mm. (Nov 25) 1914
 352nd inst. 706 mm. (Nov 30) 1914
 353rd inst. 708 mm. (Dec 5) 1914
 354th inst. 710 mm. (Dec 10) 1914
 355th inst. 712 mm. (Dec 15) 1914
 356th inst. 714 mm. (Dec 20) 1914
 357th inst. 716 mm. (Dec 25) 1914
 358th inst. 718 mm. (Dec 30) 1914
 359th inst. 720 mm. (Jan 5) 1915
 360th inst. 722 mm. (Jan 10) 1915
 361st inst. 724 mm. (Jan 15) 1915
 362nd inst. 726 mm. (Jan 20) 1915
 363rd inst. 728 mm. (Jan 25) 1915
 364th inst. 730 mm. (Jan 30) 1915
 365th inst. 732 mm. (Feb 5) 1915
 366th inst. 734 mm. (Feb 10) 1915
 367th inst. 736 mm. (Feb 15) 1915
 368th inst. 738 mm. (Feb 20) 1915
 369th inst. 740 mm. (Feb 25) 1915
 370th inst. 742 mm. (Feb 30) 1915
 371st inst. 744 mm. (Mar 5) 1915
 372nd inst. 746 mm. (Mar 10) 1915
 373rd inst. 748 mm. (Mar 15) 1915
 374th inst. 750 mm. (Mar 20) 1915
 375th inst. 752 mm. (Mar 25) 1915
 376th inst. 754 mm. (Mar 30) 1915
 377th inst. 756 mm. (Apr 5) 1915
 378th inst. 758 mm. (Apr 10) 1915
 379th inst. 760 mm. (Apr 15) 1915
 380th inst. 762 mm. (Apr 20) 1915
 381st inst. 764 mm. (Apr 25) 1915
 382nd inst. 766 mm. (Apr 30) 1915
 383rd inst. 768 mm. (May 5) 1915
 384th inst. 770 mm. (May 10) 1915
 385th inst. 772 mm. (May 15) 1915
 386th inst. 774 mm. (May 20) 1915
 387th inst. 776 mm. (May 25) 1915
 388th inst. 778 mm. (May 30) 1915
 389th inst. 780 mm. (Jun 5) 1915
 390th inst. 782 mm. (Jun 10) 1915
 391st inst. 784 mm. (Jun 15) 1915
 392nd inst. 786 mm. (Jun 20) 1915
 393rd inst. 788 mm. (Jun 25) 1915
 394th inst. 790 mm. (Jun 30) 1915
 395th inst. 792 mm. (Jul 5) 1915
 396th inst. 794 mm. (Jul 10) 1915
 397th inst. 796 mm. (Jul 15) 1915
 398th inst. 798 mm. (Jul 20) 1915
 399th inst. 800 mm. (Jul 25) 1915
 400th inst. 802 mm. (Jul 30) 1915
 401st inst. 804 mm. (Aug 5) 1915
 402nd inst. 806 mm. (Aug 10) 1915
 403rd inst. 808 mm. (Aug 15) 1915
 404th inst. 810 mm. (Aug 20) 1915
 405th inst. 812 mm. (Aug 25) 1915
 406th inst. 814 mm. (Aug 30) 1915
 407th inst. 816 mm. (Sep 5) 1915
 408th inst. 818 mm. (Sep 10) 1915
 409th inst. 820 mm. (Sep 15) 1915
 410th inst. 822 mm. (Sep 20) 1915
 411st inst. 824 mm. (Sep 25) 1915
 412nd inst. 826 mm. (Sep 30) 1915
 413th inst. 828 mm. (Oct 5) 1915
 414th inst. 830 mm. (Oct 10) 1915
 415th inst. 832 mm. (Oct 15) 1915
 416th inst. 834 mm. (Oct 20) 1915
 417th inst. 836 mm. (Oct 25) 1915
 418th inst. 838 mm. (Oct 30) 1915
 419th inst. 840 mm. (Nov 5) 1915
 420th inst. 842 mm. (Nov 10) 1915
 421st inst. 844 mm. (Nov 15) 1915
 422nd inst. 846 mm. (Nov 20) 1915
 423rd inst. 848 mm. (Nov 25) 1915
 424th inst. 850 mm. (Nov 30) 1915
 425th inst. 852 mm. (Dec 5) 1915
 426th inst. 854 mm. (Dec 10) 1915
 427th inst. 856 mm. (Dec 15) 1915
 428th inst. 858 mm. (Dec 20) 1915
 429th inst. 860 mm. (Dec 25) 1915
 430th inst. 862 mm. (Dec 30) 1915
 431st inst. 864 mm. (Jan 5) 1916
 432nd inst. 866 mm. (Jan 10) 1916
 433rd inst. 868 mm. (Jan 15) 1916
 434th inst. 870 mm. (Jan 20) 1916
 435th inst. 872 mm. (Jan 25) 1916
 436th inst. 874 mm. (Jan 30) 1916
 437th inst. 876 mm. (Feb 5) 1916
 438th inst. 878 mm. (Feb 10) 1916
 439th inst. 880 mm. (Feb 15) 1916
 440th inst. 882 mm. (Feb 20) 1916
 441st inst. 884 mm. (Feb 25) 1916
 442nd inst. 886 mm. (Feb 30) 1916
 443rd inst. 888 mm. (Mar 5) 1916
 444th inst. 890 mm. (Mar 10) 1916
 445th inst. 892 mm. (Mar

210

Do this 239

	209	calc	Hds	Calc
Stage I see 22484,	length 1.5 mm	1.5	mm	.27
" II		1.5-2.3		.34
" III = 209A, 209	" 2.6, 2.7 "	2.3-3.3, 5	"	.48
" IV = 209A, 212	" 4.5	3.3-4.7, 8.5	"	.67
" V = 209A, 212	" 5.7-6.5	4.7-6.6, 1	"	.92
" VI = ^{209A} 212, 477	" 7.5-9.5	6.6-9.5, 1.4	"	1.4

lengths & calc. 1.5, 2.1, 3.1, 4.4, 6.3, 9 mm, 2.0

[first stage has growth, the next ones end of stage after growth]

Hds. by calc. .25 .35 .5 .7 1.0 1.4

[illegible]

* *Helix* (p. 100) - 10000, 10000
 Shells, small, as a 207, 10000
 10000, 10000, 10000, 10000
 10000, 10000, 10000, 10000
 10000, 10000, 10000, 10000

2/12 E on ...
 2/12 E on ...
 2/12 E on ...
 (added to 207) ...
 = 12.7 = 8.11

Cpl
 4/3/91

The male of the species is very different from the female. The male has a black head and neck, and a black body. The female has a black head and neck, and a black body. The male has a black head and neck, and a black body. The female has a black head and neck, and a black body.

世四

1209 A

1990

shell on back of right and left 14/15
 Hd. 5 ± L. 2.6 in. Oval, both ends rounded
 the end more obtuse than the front.
 Crown marked highest point - least
 before middle. Sd. & lat ridge low,
 not prominent. S-v ridge above the
 lat. Ridge & lat. smooth, not
 scalloped at all or tuberculate.
 The lateral space obsolete. Body
 covered densely with short setae, of
 pressed water from the sides
 forming polytypical lines. The
 lateral depression near the end
 absent. Hair from the crown of
 single row of large ones, setae
 with 2 rows of smaller ones, the small
 with adjacent, the large the small
 setae on the sides and 1 row of the
 small ones. On the lateral space
 the same small ones, the small
 the large space, the lat. line on
 very small space, the small
 with the large ones of space, the
 also on lateral side, the small
 subdivided at tip the small ones
 sp. part. The space small, the small
 glabra, a simple row of depression
 alternating with the small ones, not
 well defined and small of space
 D. large space on the side, part 2 small
 additional ones. The small ones of
 length, no marked depth of space
 the small line of small ones on a
 ridge on 6-19

IV IV
On trunk Jeff. Highlands July 14 1957
Hd. 5: L. 2.6 in. Oval, both ends, rounded
the ant more obtusely than the post.
Brown arched, highest point a little
before middle. Sd 1 last ridge low,
not prominent. S-r ridge short like
last Ridge 1 body smooth, not
scallop at all or tubercular.
The setae many obsolete. Body
covered densely with close set, of
pressed watery granules, these granules
forming polygonal frames but in
certain depressed areas they are
absent. These areas do consist of a
single row of large ones alternating
with 2 rows of smaller ones on each
side adjoining the ridge. The small
setae on the ridge are opposite the
small areas. On the lateral area
the same arrangement but below
the large spaces above last line a
very small space occurs, alternating
with the lower rows of spaces. These
ules on lateral ridge papillae,
subdivided at tip in some cases
esp. post. Slightly space more crowded
granular a simple row of depression
alternating with the spiracles not
well defined and some of smooth.
D. large space with on seg. post 2 small
add dorsal ones. Body light green yel.
fawnish no marked except 4 pale
dots and hint of reddish on s-d
ridge on 6-9

V July 19 50 rid, rounded, lateral
undulate granular, smooth, as before
seen, the pale granular rid dot more
intensive 6-10, a vine red shading
accompanying space 7-9 up to in the
yellow in the dots and solidly a bit
brownish, giving a diffuse clouded
faint diffuse patch. Body bright
green, yellowish. Sculpture across the
lateral ridges of apparent oblique
granules are a little broader, having
more than one granule in line, like
angular opposed glass beads. Deformed
area fine granular, setae obsolete,
scarcely discernible except at the ends.
S-V the ventral, deformed area are
rather well defined, comma shaped, very
imposed of a bluish area with a row
on below it, faintly confluent, granular
more granular than above lat. ridge
tail subquadrate, a little contracted, of
base and margin of 3 rounded.

Head 1mm (est.) .85 n. 9 (on glass)
Eas whole leg. July 21 2 patch pentagonal
minimised, pale centrally containing 3 small
confluent spots; broadly indistinct with yellow
which runs part. on 5d ridge but very
total near reaching lateral ridge and
(note whole leg July 22 - fine - white P. 100)

July 24 the deformed area deep & well
marked, faint shagreened granular, Ridge
coarsely dumpy, entire tubercles, as
before. Area in 60 space granular, the
granulation of elevated area fine down
above. at first minute narrow (not just like
old 1mm. Year old 5-7 mm (July 26) Red dot
as 3. Patch purple, indistinct & yellow
pale central yellow part in 1d ridge



209A (cont)

Dorsal fin 2nd, 2nd, eating, length 5.7. Patch color
 5-9. Dorsal hollow on 7 and interspersed
 add on 6-7 7-8 whitish, dorsal 7 with
 a green center, the space on 7 enclosed
 1, these depression salmon. This form
 the \square pale center of 1 patch. Patch
 begins on 8 ant, widening, margin indented,
 reaching down on 8 arm area, the
 lateral ridge on 7, narrowing, indented
 including rounded on 9 post. Color dark
 dark olivaceous with a brownish red
 and yellow border, the latter center
 along 5th ridge from 1st to 1st and
 ant as a dot on 4 & on 3 the latter
 including a red patch. Surface dorsal
 finely & closely granular. Lateral ridge
 appressed coarse granular. On the
 sides improved places in a lateral
 large & sub-lateral sep. 3 from a next
 2nd and sub-lateral interspersed rows
 as before, same sculpture. 1st lat

ridge large reniform interseg. spaces
the granules less defined. S-V folded
margin smooth. Length 6.7 July 27
July 28 6.5 x 3.8 mm canoid of elongate
at anal somewhat 6.7 x 4.3 July 29. Vent
on back of seg IV [D. imperfect spot just on
seg. I a little in next seg add segmental]
mid seg 3. S-V imperfect spot below anal
imperfect into an oblique reniform. S-V

ad. 95, 2 on lat ridge. Lat



Holm, fine at 9 scale
next to add small space
on 1st ridge a large space
was interseg. July 3 has not

a d depression, then 2 add small. 15 has a small
d. depression after the 1st 2-3, on the 1st ridge
2 ft. of antepupae, water 1 ft. on the 1st
are uniform in large on next claudate
central rounded area, showing 1st stage
ridges small 1 house water, preadult, 1st
water, 1st irregular 7.5 x 4.5 claudate
at 1st stage water 1st stage 8 x 5 only, 1st
1st stage is narrow, the lateral side
1st stage pretty well assumed 1st stage
1st stage water 1st stage 1st stage

Take you will with Ballypore 1/2
Bony 1/2 1/2. 1st 6 5. 1/2 1/2
flask whiteish translucent in
the body, primary. 1st 6 5.
in a strong white light visible
as gradually down 1/2 1/2 to
be exposed to 1/2 1/2, slightly more
opaque when held.

Hatched 1/2 1/2 9 gray Y track, limbs
longer than body, alternating
in 1/2 1/2. 1/2 1/2 not 1/2 1/2, colorless, they
1/2 1/2 1/2. Sp. 1/2 1/2.

Aug 8 eating 75

11 10

"

"

• 11 stand

Spindle rounded but subquadrate,
highest length 5 but nearly rounded
elliptical, sd ridge rounded over, d.



Small view
X3

Space narrow, lateral
hood, crest closing
as bands in wall
flattened. Subquadrately
ridge (ill) narrow
primaries, excavating
sd ridge. 78 Space
small, hollowed,
the 78 ridge from

vent, nearly equaling sd h. no.
Body light green, yellowish the inner



Small view


Space whitish with some
clouds on center. Crest
keeps interior to a thick
blueish white. The
pittles is black to plumbeous

green with a narrow space on edge
ventrally white to a light green
space on edge. The space on center
space on 78 is pale ochraceous
interior to ridge and space white. It
covers a white area in center. Broad
fingers branch in 3, narrow quickly
only covering it improved black, white

Hanging out a spur into large lat
 intersect. depressed space on 5-6,
 widens further reaching edge of
 lat ridge on 8, narrows, with
 a spur to lat space on 9-10
 narrow further and runs to tail
 just filling the local space.
 Temp. Aug 5, 5.5 in. 9.5 x 4.8 a-7 3 mm high.
 Later. patch paler slender, its crown
 edge distinct. Aug 9, 4.5 x 6 x 2.5 stopped
 at 10. Pale yellow Aug 10. Pl. white to spin
 Aug 11 spinning.

Aug 12 spinning on the same at next
 the equal house. Check Aug 6, Aug 7, 5.8 in
 patch not joining but runs continue
 from 3 - tail, but does not reach
 reach edge of lateral - edge. There
 are no spurs on 4-6 & 9-10 but
 the margin is straight. Later

the patch on next up
 on 5-10. The patch is notched by
 the lat. depression 5-6 instead of
 joining in point into it. Aug 10 7.5
 Aug 12 8 mm Aug 13 8.5. (morning)

Aug 14 with normal male except pale patch
 not on 5 & spread - a diffuse  to 5-10 ridge

Little code all white, no
markings on white oak leaves
L. D. July 19 1896

Shed while coming home, same
whitish, depressed space all
present and shape as in
T. pallida, tiny black area
along ridge. Skin closely
granular, subpapillate SV.
Length 2.1 eating hide. Tail
quadrate, faintest trace of
yellowish patch in middle of
back.



II

Little Humana
on page nine

Red cross code B209

Cult

I	.76 - 1.1	.88 - 1.3
II	1.1 - 1.6	1.3 - 1.8
III	1.6 - 2.2	1.8 - 2.6
IV	2.2 - 3.2	2.6 - 3.7
V	3.2 - 4.5	3.7 - 5.3
VI	4.5 - 6.5	5.3 - 7.5
VII	6.5 - 9.3	7.5 - 10.7

On black vate gulf 29 2mm ~~from~~ 21
(Stage III?) All marked with slight pale
green tint. Sp. spaces as in next &
same shape as large in proportion
folded ridge 1/2 mm wide, setae
visible but very small, blackish.

Add
 3.8
 1/2 in
 End of IV 2.

26
 1/2 in

26
 1/2 in
 26
 1/2 in

Add +
 6.0 2.0 2.0 End of VI 1.

New calcs. July 1896
allowing growth in S.

.18-1.1 I 409 209 B

1.1-1.6 II 209 B

1.6-2.3 III 209 B

2.3-3.3 IV 209 A 2.3
209 B 2.7

3.3-4.7 V 209 A

4.7-6.7 VI 209 A 5.7
212 6.7

6.7-7.5 VII 209 A - 1.8



St

9 eaten
See 671

Head Aug 11


209C Came out 685-

Two more *Roukenkoria*. Aug 13
also with 7 back in
white oak stage 5 at
Spewick T. I. Aug 9, 1897

Length 1.1 mm. 2 shed
shed Aug 12. Black setae, sparse; good granules
thru papillae & clef. up. esp on ② but
also on ①! ① beaded slightly, setae a
little alternating. ② faintly greenish.

Code egg on back of black oak
leaf, singly against small rib.
Beckham July 31 1896

Elliptical, flat, transparent,
a slight pearl luster in
certain light. No perceptible
color, shiny. Reti. very obscure,
not seen with $\frac{1}{2}$ inch, 1.0 x .6

Hatched Aug 8 7-9 jumped & back
just like fig. plain, @ 5 up a
twig. Spine tapering, swollen tipped
shiny, ground glass white but rather
too clean for ground glass, smooth
elliptical, tapering behind 
not on will cherry

